

Headquarters
U.S. Army Armor Center and Fort Knox
Fort Knox, Kentucky 40121-5000
25 September 1991

USAARMC Reg 385-3

Safety

LOCKOUT/TAGOUT OF HAZARDOUS ENERGY SOURCES

Summary. This regulation provides policy and guidelines concerning the control of hazardous energy sources that could cause injury to personnel during repair/maintenance of equipment.

Applicability. This regulation applies to all U.S. Army Armor Center (USAARMC) subordinate commands, directorates, staff offices/departments, and tenant commands, this headquarters.

Suggested improvements. The proponent of this regulation is the Armor Branch Safety Office. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, USAARMC and Fort Knox, ATTN: ATZK-S, Fort Knox, Ky 40121-5000.

1. **Purpose.** This regulation establishes responsibilities and procedures to prevent accidental start-up of equipment while workers perform repair, maintenance, or adjustment. Locks are used to prevent accidental activation of equipment while tags are used to alert employees to the status of equipment.

2. References.

a. Title 29 Code of Federal Regulations (CFR) 1910.147, General Industry, Occupational Safety and Health Administration (OSHA) Control of Hazardous Energy (Lockout/Tagout).

b. Title 29 CFR 1910.60, OSHA, Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters.

c. American National Standard Institute (ANSI) Z244.1-1982, Minimum Safety Requirements for Personnel Protection-Lockout/Tagout of Energy Sources.

d. AR 385-10, 23 May 88, Army Safety Program.

3. **Policy.** This is a mandatory program and all USAARMC personnel must comply with the elements of the lockout/tagout of hazardous energy sources as specified herein. Appendix A gives a list of hazardous energy sources.

4. Responsibilities.

a. Commander, USAARMC will: Ensure a lockout/tagout program is established and implemented for the protection of personnel from accidental energization or start-up of equipment during maintenance/repair.

b. Armor Branch Safety Office will:

(1) Monitor the effectiveness of this program during scheduled inspections and spot checks of work sites.

(2) Provide materials necessary to train employees on lockout/tagout procedures.

c. Commanders, directors and chiefs, staff offices/departments will:

(1) Ensure employees required to use lockout/tagout devices are trained in the purpose and use of the lockout/tagout procedure.

(2) Provide locks and tags necessary to lockout/tagout energy sources during maintenance or repair of equipment. These locks and tags shall not be used for any purpose other than to lockout and tagout energy sources. Tags should be attached with nonreusable nylon cable ties.

d. Supervisors will:

(1) Ensure all employees required to work on hazardous energy source equipment have been trained in all aspects of lockout/tagout procedures.

(2) Conduct periodic inspections to ensure all elements of this regulation are being followed by employees.

(3) Be responsible for removing lockout/tagout devices in the event the employee who installed the device is unable to remove them. (Appendix B contains procedures for removal.)

e. Employees will:

(1) Comply with all procedures herein to prevent accidental start-up of equipment/systems while performing maintenance or repair.

(2) Be knowledgeable of the equipment being serviced, the types of energy, and its hazard, and how to isolate the equipment from all energy sources.

5. Procedures:

a. Individual(s) performing maintenance will notify all affected employees that a lockout is required and the reasons for the lockout.

b. If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

c. Operate the switch, valve, or other energy isolating device so that the energy source(s) (electrical, mechanical, hydraulic, etc.) is disconnected or isolated from the equipment. Stored energy such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding-down, etc.

d. Lockout/tagout the energy isolating devices.

e. After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. Return operating controls to neutral position after the test.

f. The equipment is now locked out.

g. Restoring equipment to service requires ensuring no one is exposed in the equipment area, removing energy isolating devices, and restoring energy to the equipment.

h. Removal of lockout/tagout devices by persons other than the employee(s) who applied them is not authorized unless circumstances are such that the employee(s) who applied them is/are unable to remove them. (Appendix B has proper procedures for removal.)

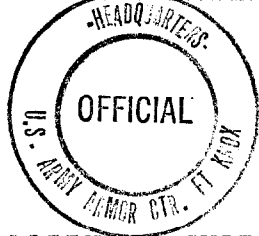
i. Procedure involving more than one person:

(1) Employees performing maintenance on the same equipment/machine as other employees shall place their own personal lockout or tagout device on the energy isolating device(s).

(2) When employees no longer need to maintain their lockout protection, they will remove their lock from the energy isolating device(s).

j. Shift or personnel changes: If work on equipment is required by the next shift, the employee(s) shall affix their tag to the equipment identifying them as the responsible party for locking or tagging out the energy sources to the equipment. The employee replacing the existing lock or tag should follow procedures in paragraph 5a through f.

FOR THE COMMANDER:



OFFICIAL:
CLAUDE W. ABATE
Colonel, GS
Chief of Staff

LARRY C. SHARP
Director, Information Management

DISTRIBUTION:

A plus

500 - ATZK-S

5 - ATSB-TDL

CF: .

Asst Comdt, USAARMS

APPENDIX A

USAARMC Reg 385-3 (25 Sep 91)

EXAMPLES OF EQUIPMENT/SYSTEMS REQUIRING LOCKOUT/TAGOUT

Examples of equipment/machines requiring isolation from energy sources while performing maintenance or repair:

Boilers: High and Low pressure

Heating/ventilation/air conditioning equipment

Air compressors

Motors and pumps

Steam, water, gas lines

All electrical components: breakers, starters, relays, generators

Valves: pneumatic, water

Control panels

REMOVAL OF ENERGY ISOLATING DEVICES BY PERSONS OTHER THAN THE EMPLOYEE WHO APPLIED THEM

Procedures for removal of energy isolating devices by persons other than those who applied them. This procedure will only be applied to those situations where circumstances are such that the employee who applied the lockout or tagout is unavailable to remove them.

1. The supervisor must verify that the employee who applied the device is unavailable to remove the lock or tag.
2. Every reasonable effort will be made to contact employees to inform them that their lockout or tagout device has been removed.
3. The supervisor will ensure that the employees have been informed that their tag have been removed before the employees resume work in the facility where the lockout or tagout device was removed.
4. The reason for removal of an employee's energy isolating device shall be documented by the supervisor with a copy provided to the Armor Branch Safety Office.

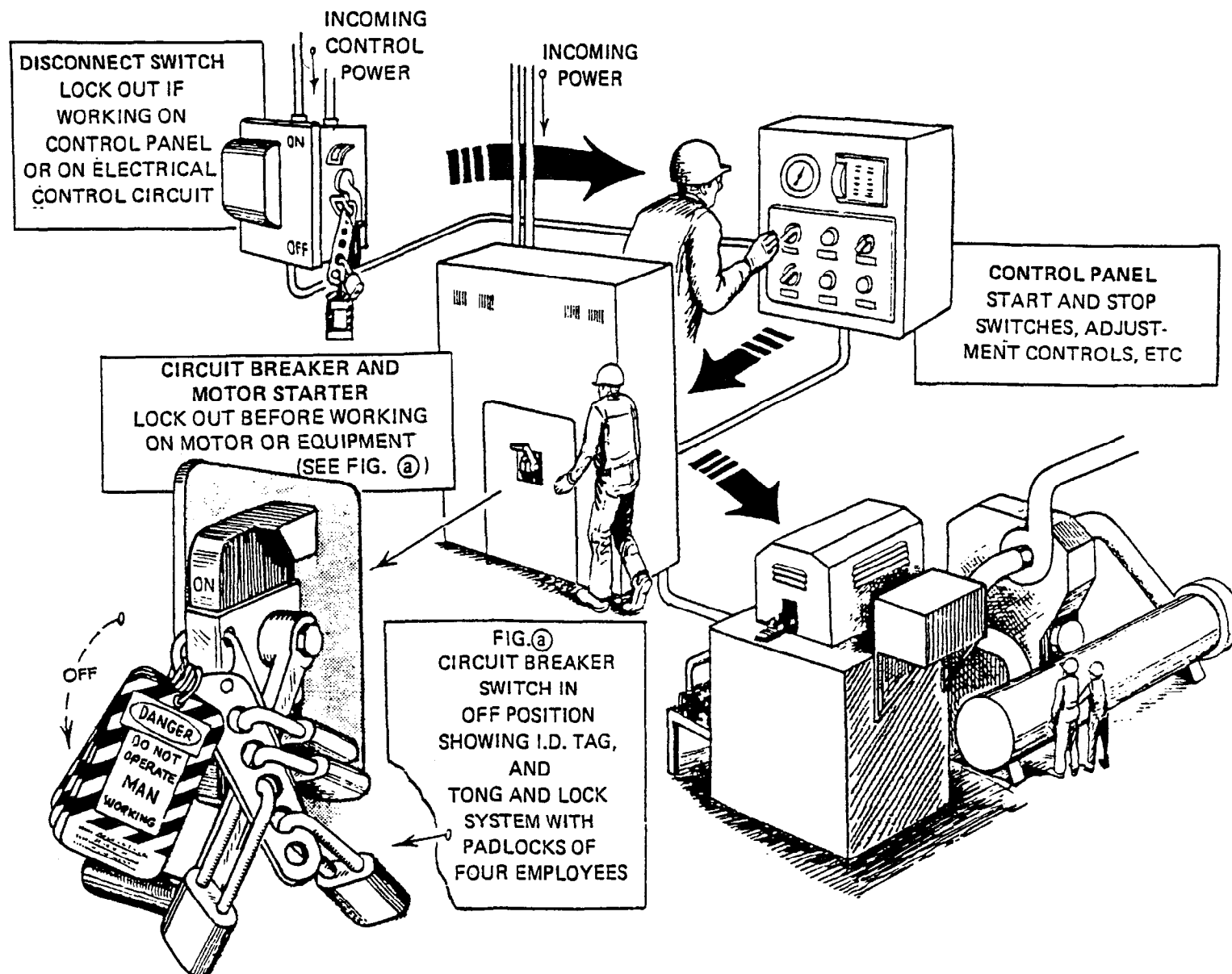


Illustration 1
LOCKOUT/TAGOUT PROCEDURES FOR ELECTRICAL ENERGY SOURCE

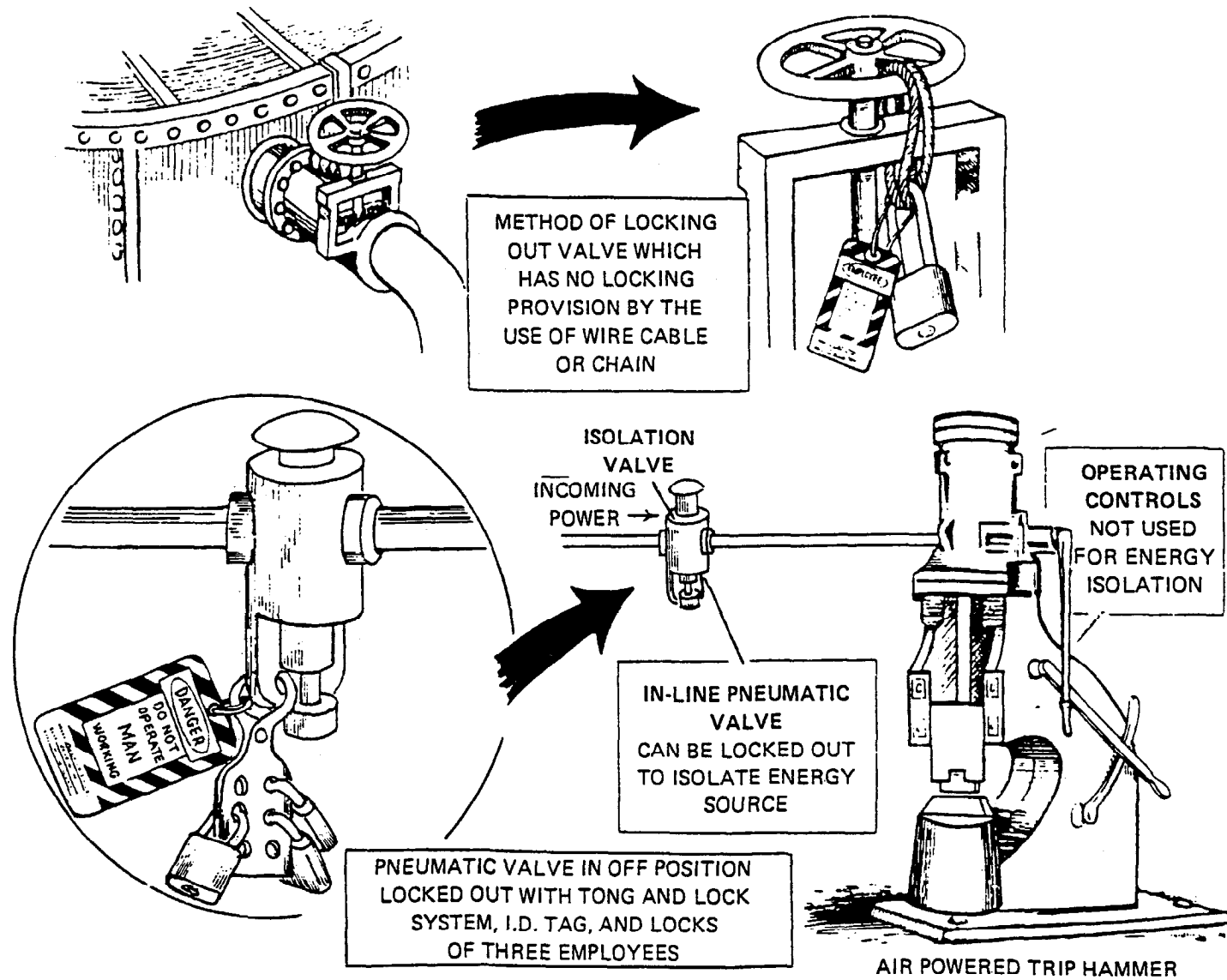


Illustration 2
Lockout/Tagout Procedure for Hydraulic-Pneumatic Energy Source